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ABSTRACT

Enrollment trends between 1965 and 1978 at state colleges and universities belonging to the American Association of State Colleges and Universities are analyzed in connection with major events that either raised or lowered the cost of attending these institutions. Headcount data, full-time and part-time enrollments, enrollment of female students, and enrollment of graduate and undergraduate students were assessed. The following factors influencing enrollments were assessed: unemployment among 18-to-24-year-olds, urban and rural location, tuition, room and board, expiration of veteran's benefits, rejection of Basic Educational Opportunity Grant applicants, and the growth in student aid. Based on the analysis, the aptness of several popular enrollment theories are evaluated. It is concluded that enrollments in state colleges and universities seem acutely sensitive to the ability of students to pay the costs of college attendance. Institutional planning has become more complicated and outcomes for the 1980s will depend on assessment of economic and political changes that affect higher education. (SW)

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ENROLLMENT TRENDS AND COLLEGE COSTS

American Association of State Colleges and Universities

Enrollment Trends and College Costs

Jacob Stampen
Senior Research Associate for Policy Analysis
American Association of State Colleges
and Universities

January 1980

AASCU Studies –1980–Number 1

CLARIFICATION: Interpretation of Figures and Tables

The trend lines appearing in Figures 1-8 enable the reader to compare and contrast lines in several figures covering different time spans more easily than would be the case if trend lines were drawn from the base year within each figure.

However, the reader is cautioned that this approach, consistantly used here and labeled "cumulative percent" understates the actual growth of each trend line. Therefore, percentages appearing in the figures and supporting tables do not represent actual growth, except on a year to year basis. Actual growth from any chosen base year can be calculated from raw data appearing in the Appendix. The use of either cumulative percent or a base year approach does not alter the evidence from which the conclusions are drawn

Examples of Actual Percent Growth by Factor

Years	Factor	% Increase	Years	Factor	% Increase
1965-78	Headcount Enrollment	85.0	1967-76	Full-time Undergrad Enroll	35.1
"	High School Graduates	19.5	"	Part-time Undergrad Enroll	100.2
1965-77	Full-Time Equivalent Enroll	77.0	"	Full-Time Grad Enroll	182.5
"	Full-Time Female Enroll	89.0	"	Part-Time Grad Enroll	105.0
"	Part-Time Female Enroll	185.3	1968-76	Tuition,Room & Board Public	67.8
"	Full-Time Male Enroll	53.3	"	Tuition, Rm. & Bd. Non-Public	74.8
"	Part-Time Male Enroll	107.0	"	Consumer Price Index	64.2
"	Inst.in 500k SMSA's Enroll	116.1	1972-78	State Student Aid	162.3
"	Inst.in 70-500k SMSA Enroll	95.3	"	Federal Student Aid	186.4
"	Inst. in Rural Areas	58.8			

TABLE OF CONTENTS

	Page
Introduction	1
The Data	2
Enrollment Trends	3
Headcount and FTE	3
Part-Time and Female Students	4
Graduate and Undergraduate Students	6
Factors Influencing Enrollments	8
Unemployment Among 18- to 24-year olds	8
Urban and Rural Location	10
Tuition, Room and Board	16
Expiration of Veteran's Benefits	18
Rejection of BEOG Applicants	21
Growth in Student Aid	24
Summary and Conclusions	26
Cost of Attendance Theory	26
The Underemployed College Graduate	27
Demographic Decline	28
Preference for Part-time Attendance	28
The Selfish Parent	28
The Undereducated American	28
Conclusion	29
Appendix	31
Bibliography	44

Introduction

> American colleges and universities may face a far more serious enrollment crisis than has been predicted by analysts of higher education, according to the Census Bureau's latest statistics. The reason for the apparently widespread miscalculation is that most of the projections for the decade ahead have been based solely on the declining birthrate, not taking into consideration the possibility of waning interest in college attendance. On the basis of Census Bureau figures, experts estimate that the enrollment drop by 1990 may be double what is now forecast. . . . .

So begins an article by Fred M. Hechinger in the June 12, 1979 issue of the *New York Times.* According to Joseph Froomkin, a prominent higher education analyst cited in the Hechinger article, one cause for concern is, "the collegiate universe, " which is 300,000 below U.S. Census estimates "at a time when higher education is generally expected still to be in a growth period."

This and similar articles may or may not be correct in terms of future enrollments because there is little evidence that documents the relationship between enrollment declines and waning student interest or a host of other frequently cited factors. In fact, over the past decade enrollments, at AASCU member state colleges and universities (which collectively enroll about one in three bachelor's or higher degree seeking students) have not followed paths suggested by the most popular theories. Rather, fluctuations in enrollment are more easily explained by fluctuations in the cost of college attendance—a factor rarely mentioned by analysts.

During the 1970s, whenever anything happened that eased access to state colleges and universities, as well as other higher education institutions, there was an immediate increase in enrollments. Conversely, restrictive measures presaged enrollment declines among important student constituencies. Thus, if they occur, sharp enrollment declines in the 1980s may be influenced as much or more by tuition levels and the availability of student aid as other factors.

The following report interprets recently compiled enrollment trends for AASCU member state colleges and universities between 1965 and 1978 in connection with major events that either raised or lowered the cost of attending these institutions.

The Data

AASCU submitted a list of its current 333 member institutions to the University of Arizona Center for the Study of Higher Education. The Center used this list to compile enrollment histories for each institution from the Higher Education General Information Survey (HEGIS) data tapes. Several special histories were developed according to AASCU specifications. Among these were the following: location (Standard Metropolitan Statistical Areas, and rural areas); attendance (full-time, part-time, headcount, FTE); level (graduate, undergraduate) and sex.

A note of caution is necessary. HEGIS data may contain errors stemming either from faulty institutional reporting or errors in data processing. It is hoped that the large scale aggregation of data in this report will neutralize flaws in the data and provide basically accurate displays of over-all enrollment trends.

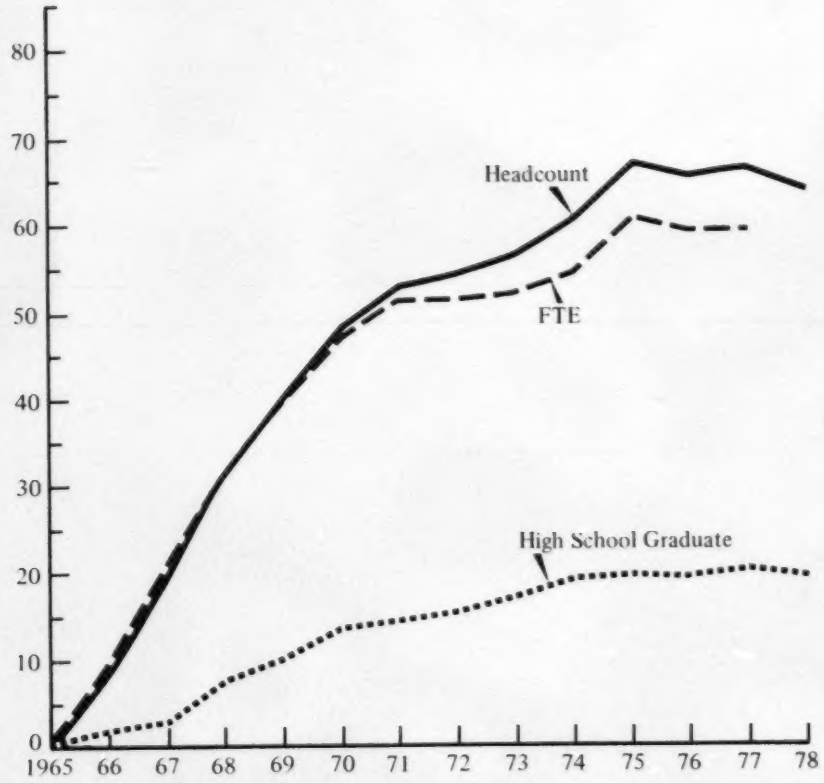
As with other attempts to prove statistical relationships in social sciences research, the linearity among variables cannot be proven wholly and to a certain extent must be circumstantial. The analysis is based on detailed enrollment data that has not been available until now. As the hypothesis rests upon statistically measurable variables, it lends itself to validity testing under more controlled circumstances. Hopefully, this will be one outgrowth of this approach.

Enrollment Trends

Headcount and FTE

Figure 1 shows headcount and FTE (full-time equivalency) enrollment trends since 1965. The two trend lines follow nearly identical paths in steep assent until 1970, after which the rate of growth slows and the two trends diverge. The widening gap between headcount and FTE reflects the increasing influence of part-time students, even when enrollments decline in 1976 and 1978.

Figure 1
AASCU Institutions Cumulative Percent Increases In Headcount and Full-Time Equivalent Enrollments and High School Graduates 1965-1978

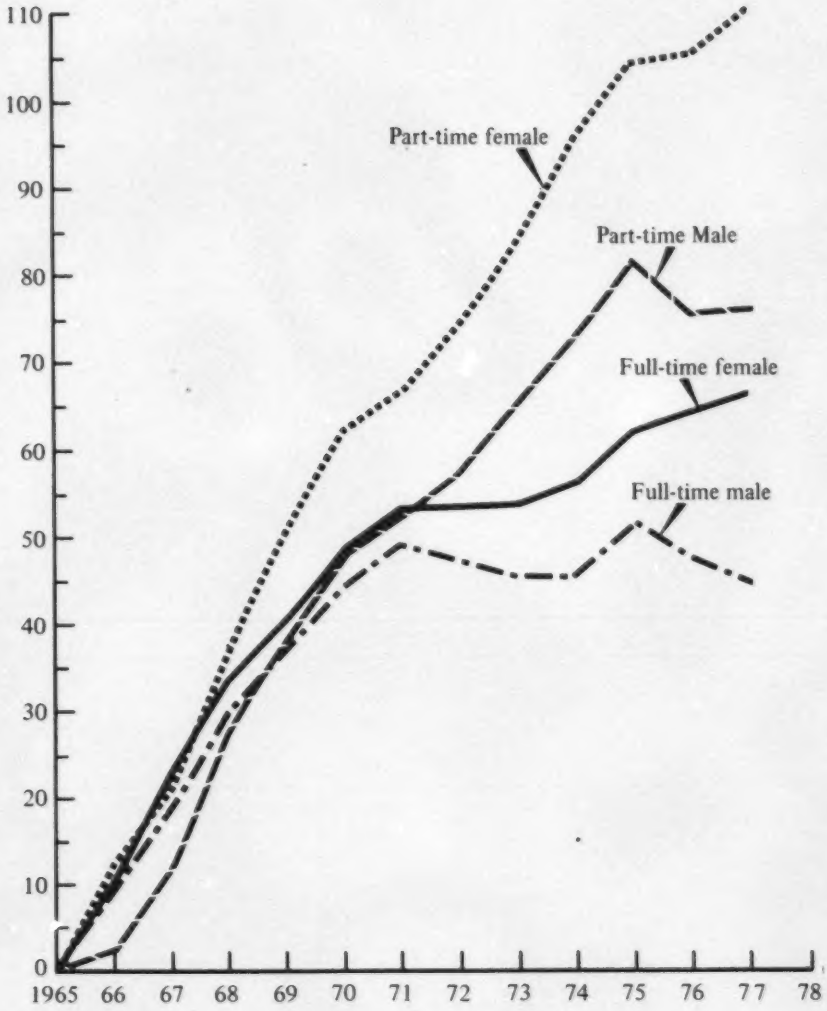


The bottom line in Figure 1 shows the high school graduate growth trend. It is clear that state college and university enrollments have increased faster than high school graduating classes in all but a few years since 1965. In fact, enrollments have not been finely tuned to the number of high school graduates.

Part-Time and Female Students

Figure 2 illustrates some major changes in state college and university attendance patterns since 1970. Most striking is the unbroken continuation of 1960's growth rates among male and female part-time students. This continues until 1976 when there is a decline in part-time male enrollments and a leveling off in part-time female enrollments. Full-time female enrollments continue to increase, but at a slower pace. Full-time male enrollments, except for a brief surge in 1975, declined after 1971.

Figure 2
Full and Part-Time Male and Female Enrollments 1965-1977



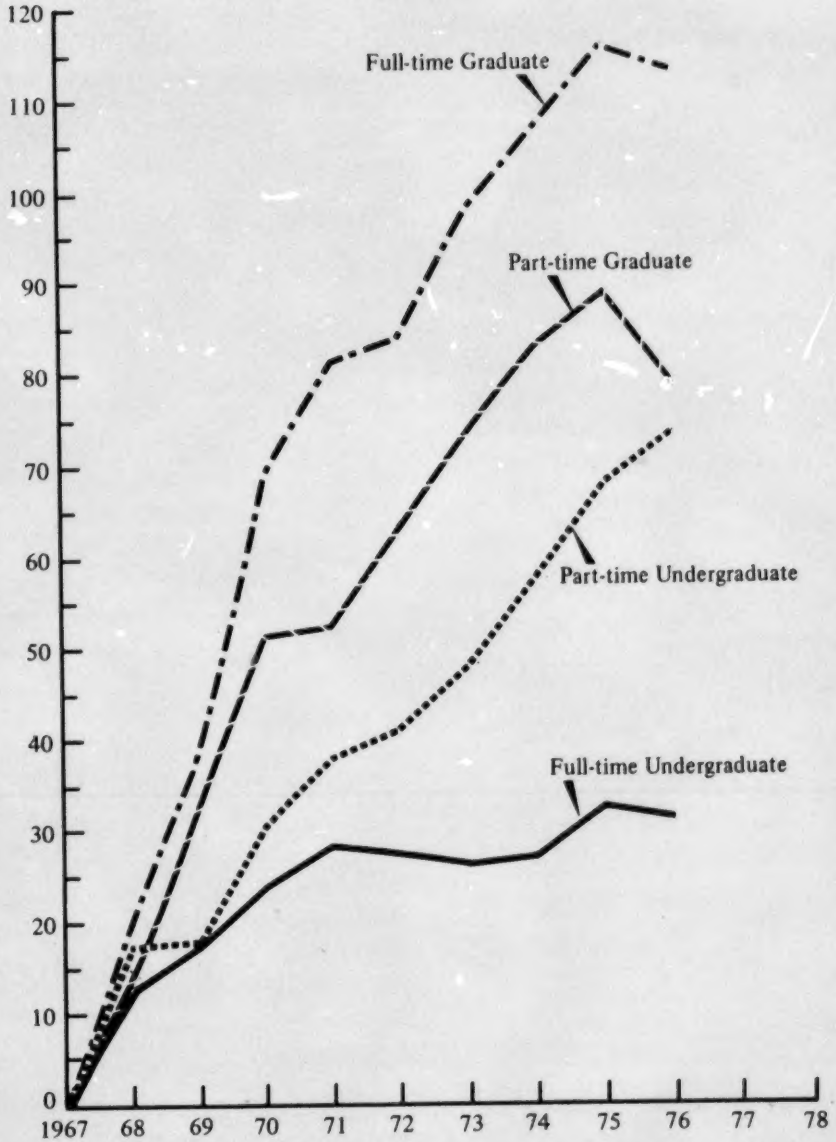
Graduate and Undergraduate Students

In 1967, one state college and university student in eight was a graduate student, by 1975 one student in five was enrolled in graduate school. Among graduate students, one student in five attended college full-time in 1967. In 1976 one in four attended full-time. Figure 3 shows changes in graduate and undergraduate full and part-time enrollments between 1967 and 1976. (Data since 1976 is not available in this form). The fastest rate of growth has occurred in the full-time graduate student category, 113 percent since 1967. However, among the state colleges and universities, full-time graduate students have yet to account for more than 3.7 percent of the total enrollment.

The slowest rate of growth occurred in the full-time undergraduate category. Full-time undergraduate students accounted for 72 percent of the total enrollment in 1967 and 63 percent in 1976.

Among full-time undergraduate students, enrollments actually declined from 1971 to 1974 and declined again in 1976. This has clearly become the slowest growing category of state college and university enrollments.

Figure 3
Full and Part-Time Graduate and Undergraduate Enrollments
1967-1976

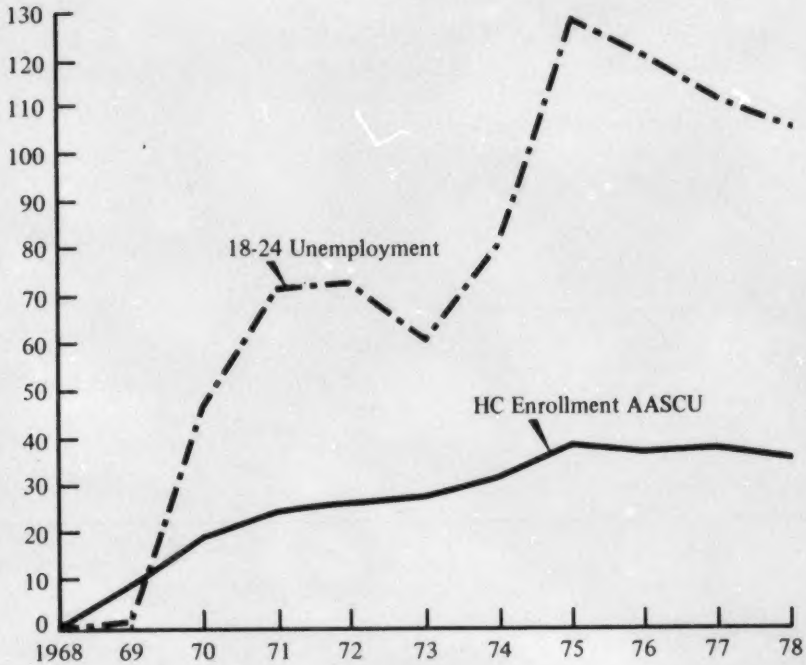


Factors Influencing Enrollments

Unemployment Among 18 to 24-Year Olds

Figure 4 compares the trend in unemployment among 18 to 24-year olds with headcount enrollments at state colleges and universities. There appears to be some similarity in the two trends and even a closer similarity with full-time undergraduate enrollments and full-time male enrollments. (See Figures 2 and 3). However, AASCU enrollments are not as volatile as the unemployment rate. It is probably significant that enrollments grew steadily as unemployment increased and the pattern suggests what has happened to college aged males while the workforce was expanding. Both enrollments and unemployment peaked in 1975 and declined after that, but unemployment declined much faster than enrollments, despite the expiration of veteran's benefits and higher BEOG rejection rates, factors that are discussed later in this report.

Figure 4
Cumulative Percent Increases in 18-24 Age Unemployment and Headcount Enrollments at AASCU Member Institutions 1968-1978



Urban and Rural Location

About one-half of the state colleges and universities belonging to AASCU are urban, as defined by their location in Standard Metropolitan Statistical Areas (SMSA). The other half are located outside of SMSA's and are labeled rural. Figure 5 shows headcount enrollment trends for institutions located in large SMSA's (i.e., with population over 500,000), in smaller SMSA's populations between 70,000 and 500,000 and in rural areas. Perhaps the most interesting feature in Figure 5 is that enrollments have consistently increased faster in urban institutions than in rural institutions, except in 1976 and 1978. In these years institutions located in the largest urban areas experienced the largest declines, followed by institutions located in the smaller urban areas. There is no similar pattern among rural institutions. Another interesting feature of Figure 5 is that overall enrollments among rural institutions declined between 1971 and 1975, while urban institutions continued to grow fairly rapidly until 1976.

Figure 5
Institutional Headcount Enrollments By Location in Standard Metropolitan Statistical Areas With Populations Over 500,000, Populations Between 70,000 and 500,000 And In Rural Areas
1965-1978

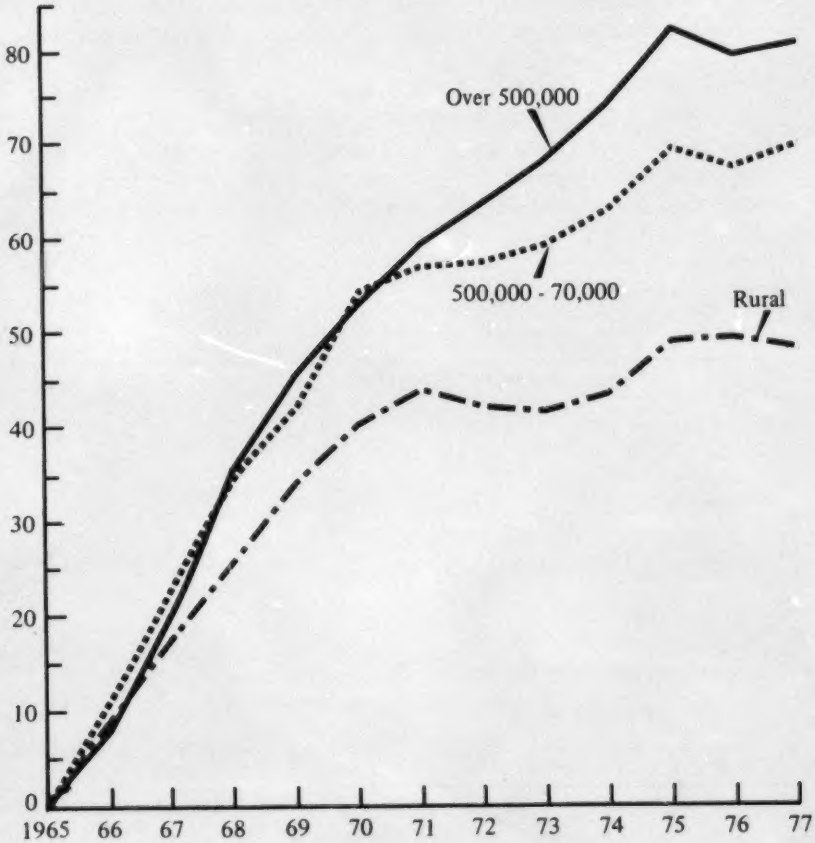


Table 1A and 1B provide a geographic display of peaks and valleys in FTE enrollments between 1965 and 1977 by state. The tables suggests four factors that influence enrollment. One, a "sun belt/snow belt" division may be reflected, particularly in table 1B. Two, institutional location also may be important: in the midwest, northwest and plains states, as compared to the rest of the nation, institutional location is disproportionately rural. Three, the influence of the diminishing size of high school graduating classes appears. The number of graduates peaked earlier in the seventies in the plains states and spread eastward and westward from there. Four, enrollments in the eastern states reflect the late expansion of state colleges and universities in that region. Thus, the relative newness of the services may have given state colleges and universities in the east an advantage in prolonging growth. An added factor is the demographic one cited earlier: the east is the last region scheduled to experience decline in the size of high school graduating classes.

Among these factors institutional location seems to be the most important. Rurally located institutions logically have the greatest difficulty compensating for the decline of full-time enrollments by drawing more part-time enrollments.

Table 1A
AASCU Member Institutions:
Year of Highest Enrollment and Enrollment Decline
Since Highest Year, By State 1965-1977

State	Highest Enrollment Year	Number Decline by 1977	Percent by 1977
Midwest			
Illinois	1975	3,823	4.5
Indiana	1971	4,412	14.1
Iowa	1970	167	1.8
Kansas	1969	3,520	13.1
Michigan	1976	392	.4
Minnesota	1970	1,142	3.9
Missouri	1977	0	0
Nebraska	1970	1,877	9.2
North Dakota	1970	2,399	33.7
Ohio	1977	0	0
South Dakota	1969	2,788	27.6
Wisconsin	1970	690	1.1
South			
Alabama	1977	0	0
Arkansas	1977	0	0
Florida	1975	1,087	2.3
Georgia	1975	2,916	5.8
Kentucky	1977	0	0
Louisiana	1977	0	0
Maryland	1977	0	0
Mississippi	1977	0	0
North Carolina	1977	0	0
South Carolina	1977	0	0
Tennessee	1975	10	0
Virginia	1977	0	0
West			
Arizona	1977	0	0
California	1977	0	0
Colorado	1976	375	1.0
Idaho	1977	0	0
Montana	1970	1,736	23.8
New Mexico	1971	1,401	17.9
Oklahoma	1977	0	0
Oregon	1971	1,960	8.6
Texas	1976	1,114	.9
Utah	1970	1,636	16.5
Washington	1971	4,759	18.8

State	Highest Enrollment Year	Number Decline by 1977	Percent by 1977
East			
Connecticut	1975	1,173	4.7
District of Columbia	1973	3,537	34.9
Maine	1975	799	7.5
Massachusetts	1975	1,325	2.4
New Hampshire	1977	0	0
New Jersey	1975	4,566	7.8
New York	1975	18,635	18.1
Pennsylvania	1975	19,421	14.1
Rhode Island	1972	117	2.1
Vermont	1976	354	9.2
West Virginia	1977	0	0

Table 1B
AASCU Member Institutions:
Years in Which Full-Time Equivalent
(FTE) Enrollments Declined, By State 1965 – 1977

	FTE Decline Years
Midwest	
Illinois	1972, 1976, 1977
Indiana	1972, 1973, 1974
Iowa	1971, 1972, 1973, 1974
Kansas	1966, 1970, 1971, 1972, 1973, 1974, 1976
Michigan	1972, 1973, 1977
Minnesota	1971, 1972, 1974
Missouri	1972, 1973, 1974
Nebraska	1971, 1972, 1973, 1974, 1976
North Dakota	1966, 1971, 1972, 1973, 1974
Ohio	1972, 1973, 1976
South Dakota	1970, 1971, 1972, 1973, 1974
Wisconsin	1971, 1972, 1973

South

Alabama	1972
Arkansas	1970, 1972, 1973
Florida	1976
Georgia	1976
Kentucky	1970, 1973, 1977
Louisiana	1969, 1973, 1974, 1976
Maryland	None
Mississippi	1972, 1973, 1976
North Carolina	1976
South Carolina	None
Tennessee	1976
Virginia	None

West

Arizona	1966, 1969, 1972, 1976
California	1976
Colorado	1972, 1977
Idaho	1972, 1974, 1976
Montana	1971, 1972, 1973
New Mexico	1967, 1972, 1973, 1974, 1975, 1976
Oklahoma	1970, 1972, 1973, 1974, 1977
Oregon	1972, 1973
Texas	1972, 1977
Utah	1971, 1972, 1973, 1974, 1976, 1977
Washington	1972, 1973, 1974, 1976, 1977

East

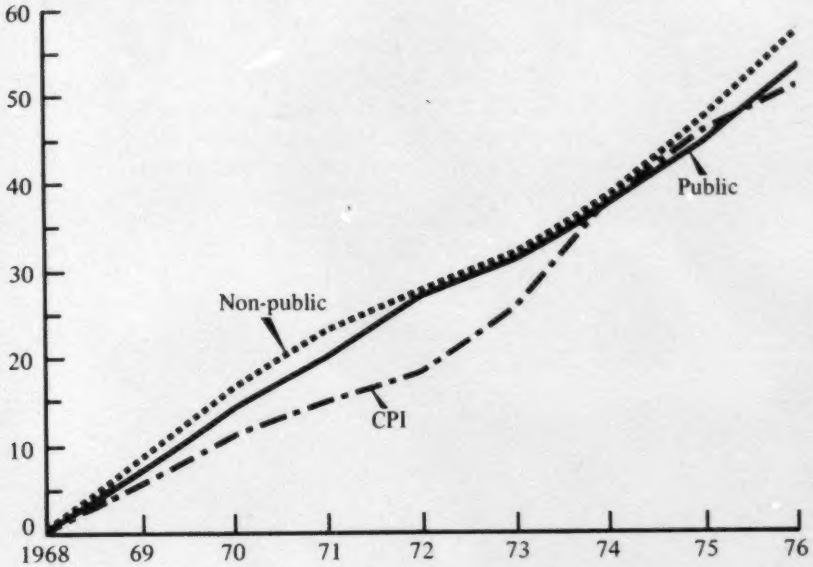
Connecticut	1976, 1977
District of Columbia	1972, 1974, 1976, 1977
Maine	1971, 1976, 1977
Massachusetts	1976
New Hampshire	1972
New Jersey	1976
New York	1976, 1977
Pennsylvania	1976, 1977
Rhode Island	1973, 1974, 1975, 1976
Vermont	1977
West Virginia	1972, 1973, 1974

Tuition, Room and Board

Figure 6 compares increases in tuition, room and board rates at public and non-public institutions with increases in the Consumer Price Index (CPI). The cost-of-college-attendance outpaces the CPI by constantly widening margins between 1968 and 1972. For public institutions the gap was particularly wide between 1971 and 1973. By 1974 the gap closed and the CPI paralleled college attendance costs. "Sibling overlap" also may have aggravated the gap between tuition, room and board charges and the CPI during the 1970s. Family size and the interval between children changed after World War II. By 1968, the average family with college-age children had three children at two year intervals. Thus, many families were supporting more than one dependent in college at the same time. Earlier generations more often had to contend only with one dependent in college as the average space between children was four years. This phenomenon slowed and peaked in the late 1970s.

At state colleges and universities the period between 1971 and 1973 marks a plateau in FTE enrollments, a decline in full-time attendance, and renewed escalation in part-time enrollments. In 1974, and after, increases in tuition, room and board were low enough to allow the CPI to catch up. Possibly as a result, FTE enrollments escalated in 1975.

Figure 6
Tuition Room and Board Public and Non-Public Higher Education Institutions
1968-1976



Source: U.S. Department of Health, Education and Welfare, National Center for Education Statistics, Projections of Education Statistics to 1986-87; 1978.

Expiration of Veteran's Benefits

It is interesting to note that the 1971-74 period of decline in full-time undergraduate enrollments corresponds very closely to a period when tuition, room and board rates accelerated substantially faster than the Consumer Price Index, and that the decline in 1976 corresponds with the expiration of veteran's benefits and a subsequent loss of 376,000 student veterans from 1975. Table 1 shows that the decline in veteran's enrollments between 1975 and 1976 was equivalent to 3.4 percent of the total enrollment in all higher education institutions. Overall enrollments declined by only 1.5 percent, indicating continued growth in non-veteran enrollments that year. In 1976, state colleges and universities suffered a decline in headcount and FTE enrollment, more specifically in graduate full- and part-time enrollment and undergraduate full-time enrollment. The declines were greatest at institutions which enrolled the largest percentage of veterans, namely institutions located in urban centers. Rural institutions with relatively few veterans enrolled were the least affected.

Projected End of June Population of Post-Korean Veterans Eligible for GI Bill Training Through June 30, 1980 (In Thousands)

	Within Ten Year Eligibility Period 1/			
	Net No. Separated	Number Eligible	Number Who Became Eligible in Previous Year	Number Losing Eligibility in Previous Year
June 30, 1975	10,858	9,462	419	0
June 30, 1976	7,175	6,286	380	3,656 2/ 3/
June 30, 1977	7,098	6,107	380	459
June 30, 1978	6,769	5,798	346	655
June 30, 1979	6,245	5,305	346	839
June 30, 1980	5,679	4,777	371	899
June 30, 1981	5,150	4,295	371	853
June 30, 1982	4,746	3,933	371	733
June 30, 1983	4,598	3,810	371	494
June 30, 1984	4,497	3,726	371	455
June 30, 1985	4,420	3,678	371	419
June 30, 1986	4,410	3,669	371	380
June 30, 1987	4,400	3,660	371	380
June 30, 1988	4,430	3,685	371	346
June 30, 1989	4,460	3,710	371	346
June 30, 1990	4,460	3,710	371	371

1/ Assumes GI bill benefits will not be cut off. Number eligible adjusted to exclude veterans with less than 181 days of service or less than an honorable discharge.

2/ 98.9% of these lose eligibility on May 31, 1976, the initial delimiting date of the GI bill, the other 1.1% lose eligibility from June 1, 1976 to June 30, 1976.

3/ Of the 3,618 thousand persons losing entitlement May 31, 1976, 2,779 thousand are peacetime post-Korean veterans and 839 thousand are Vietnam era veterans separated in fiscal year's 1965 and 1966.

Research Division
(042A1)
September 22, 1975

Table 2
ESTIMATED CHANGE IN COLLEGE ENROLLMENT BY VETERANS
1975-1980

	Net Change In Number of Veterans' Benefits	Estimated Change In Veterans' Enrollments *	Percent of Total 1976 H.E. Enroll-ments (11,200,000)
1975	+419,000	+48,000	+.4
1976	-3,276,000	-376,000 Actual	-3.4
1977	-79,000	-9,000	-.1
1978	-309,000	-35,000	-.3
1979	-493,000	-56,000	-.5
1980	-528,000	-60,000	-.5

* Assuming constant 1976 ratio

Rejection of BEOG Applicants

In 1978, 500,000 applications for Basic Educational Opportunity Grants (BEOG) were rejected, most of them submitted by students from low-income families attending public colleges. The rejections occurred as HEW adopted a new "multiple data entry" system intended to increase the flexibility and effectiveness of the BEOG program by enabling multiple form processing. There were however, unanticipated consequences.

Whereas about 20 percent of all applications were rejected in 1977, 40 percent were rejected in 1978. The HEW, Bureau of Student Services reported that most students were rejected because of clerical errors made completing the BEOG application forms. There is no evidence that errors were intentionally made. The Bureau also acknowledged that no attempt was made to trace the fates of the rejected students.

The impact on enrollment was particularly heavy in institutions in large urban centers that enroll disproportionate numbers of students from low-income and minority families. However, the historically black institutions experienced the sharpest decline. Enrollments at predominately black four-year and two-year public institutions decreased 6.1 percent and 12.5 percent, respectively. The decline was 4.7 percent for the predominately black private four-year institutions.

In a February 13, 1979, press release, the Institute for Services to Education (ISE) Inc. gave its perceptions on the sharp enrollment decline in historically black institutions. According to Dr. Mary Carter Williams, Director of the Institute's Division of Research and Evaluation:

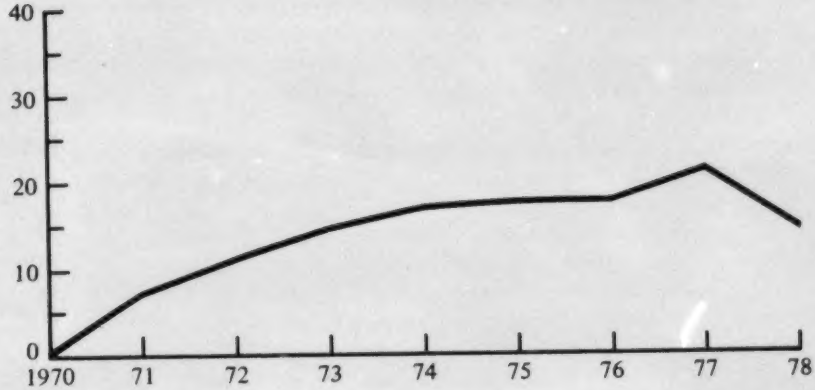
> The decline in enrollment is partly symptomatic of recent problems in the award of student financial aid. More than 70 percent of the students attending historically black colleges require some form of student financial aid. Any marked interruption in the award of such grants is likely to have a significant impact upon HBC enrollments. . .
>
> Possibly the largest single factor in this year's decline in HBC enrollments relates to the new computer editing program instituted by the United States Office of Education to curb fradulence and abuse among BEOG applicants. The editing program received widespread publicity last fall, when 500,000 applications were returned for verification and validation of information. The resulting confusion led, in many instances, to a delay in the award of grants until after the start of the semester, Further, a significant number of the applicants who were rejected did not re-apply.

Dr. Elias Blake, Jr., chairman of the National Advisory Committee on Blacks in Higher Education, commented. "The Office of Education's effort to control BEOG fradulence and abuse is not finely tuned enough, resulting in the denial of opportunity to thousands of young people. . .It is a serious matter when damage is done to recent trends in improving access."

Other factors cited in explanations of the decline in HBC institutions include federally directed integration of colleges in the Adams states (referring to states affected by the *Adams vs Califano* litigation), declining veterans enrollments, rising academic standards at some predominantly black institutions, and the increased enrollment of black students in predominantly white institutions. With respect to the influence of the *Adams* litigation, enrollment declines among public four-year institutions were sharp in both *Adams* and *non-Adams* states (7.3 and 5.6 percent respectively). With respect to the veterans, veterans' benefits continued to show a net decline, but at a far slower rate than in 1976.

HBC institutions have in some cases toughened entrance requirements in recent years, but among the 24 historically black institutions belonging to AASCU, the pattern of sharp decline in 1978 is fairly uniform. (See Figure 7) Increasing enrollments of black students in predominantly white institutions may be a significant long-term factor, but it seems doubtful that this trend would be so precipitous as to account for a major decline in a single year. In sum, it is very likely that the single most important factor affecting enrollment declines among predominantly black institutions, as well as among institutions located in large urban areas that also serve proportionately large numbers of minority students, was the sharply increased BEOG rejection rate in 1978.

Figure 7
Historically Black AASCU Member State Colleges and Universities
Headcount Enrollment
1970-1978



Enrollments:

80,003	85,703	89,456	92,374	94,466	93,566	93,889	96,865	90,375

Percent Change:

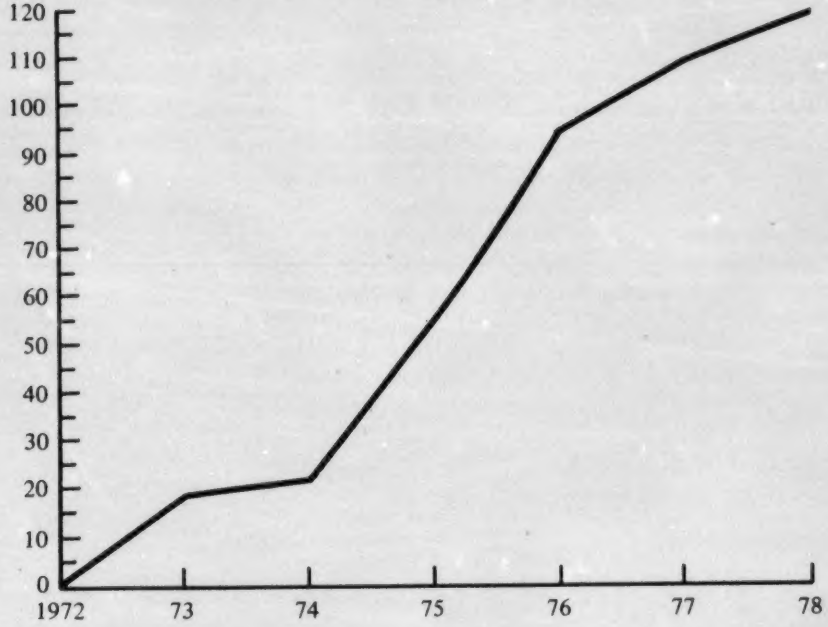
	+7.1	+4.3	+3.3	+2.3	+.9	+.3	+3.2	-6.7

Source: National Center for Education Statistics: Enrollments 1970 – 1978

Growth in Student Aid

Figure 8 shows the cumulative growth in federal and state student aid between 1972 and 1978. (Excluded from the figure are veterans and social security benefits.) Between 1972 and 1978, state and federal aid increased from $1.4 to $4.0 billion. During this period federal aid increased from $1.1 to $3.2 billion and state student aid increased from $320 million to $830 million. The BEOG program, has been proportionately beneficial to students attending public colleges and universities. However, the BEOG program did not become substantial until 1975, when it provided $351 million to students from low income families; thus, the program had little impact on public institutions during the period when tuition, room and board rates were increasing faster than the CPI.

Figure 8
Federal and State Student Aid – 1972–1978
Cumulative Percent Increase



Summary and Conclusions

The Cost of Attendance Theory

Overall, the first half of the 1970's was not conducive to expanding access to state colleges and universities. The decade began with the close of the Vietnam War and a net increase in the cost of college attendance. Tuition and room and board rates substantially outdistanced the Consumer Price Index until 1974, when the CPI caught up. This is reflected in the decline in full-time attendance and the continuing growth in part-time attendance at 1960's rates; a logical response by students to the net increase in college attendance costs. Growth in student aid did not parallel the increase in tuitions and other attendance costs as federal student aid, particularly the BEOG program, experienced its most significant expansion after 1974.

1975 was a major growth year for the state colleges. The CPI had caught up with tuition and room and board rates and the BEOG program distributed over $351 million to low-income students. However, in 1976, there was an unexpected decline in enrollments. This decline stemmed from an event unanticipated by those who compile the annual National Center for Education Statistics enrollment projections: the expiration of 3.6 million veterans' benefits and the subsequent dropping out of 370,000 veteran students. The drop-out veterans accounted for 3.4 percent of the total enrollment in all public and private higher education institutions. Enrollments in 1976 declined by only 1.5 percent (173,000 students), suggesting that if veterans benefits had not expired, overall enrollments would have increased by 1.8 percent (203,000 students).

In 1977, increases in tuition, room and board rates were outpaced by the CPI, federal and state student aid was augmented, and enrollment increased. However, in 1978 there was another unexpected enrollment decline.

The enrollment decline of 1978 was similar to that of 1976: unlike other years since 1965, it affected institutions located in urban areas more than those located in rural areas. Unlike 1976, the institutions that experienced the sharpest declines were the historically black institutions.

The event—also unanticipated in the NCES projections—that appears most singularly responsible for the decline of 1978 was the doubling in one year of the BEOG rejection rate (from 20 to 40 percent). Factors contributing to the increased rejection of BEOG applicants (500,000 in the fall of 1978) may have included a relatively small increase in BEOG appropriations for 1978, an expanded pool of students eligible to participate in the BEOG program, and the adoption of a multiple data entry system, which allowed several different application forms to be processed through the BEOG computers.

Personnel in the HEW Bureau of Student Financial Aid have cited the failure of applicants to accurately complete the BEOG forms as the principal reason for rejections; the bureau did not monitor the extent to which rejected applicants did or did not continue their educations without BEOG

grants. However, it did report that of the 500,000 who had their applications returned, only one-third reapplied. Thus 330,000 did not reapply. Given the low family incomes of most BEOG applicants in the fall of 1978, it seems reasonable to estimate that at least one-third (110,000) of those BEOG applicants who did not reapply did not continue their educations in 1978. Additionally, it is estimated that 35,000 veterans whose benefits expired in 1978 also dropped out. If these figures are reasonably accurate, a total of about 145,000 students failed, for lack of student aid, to attend college in 1978. The overall decline in that year was about 23,000 students. Thus, without the increased BEOG rejection rates and the continued expiration of veteran's benefits, overall enrollments in 1978 would have increased by about 112,000. Together the veterans decline in 1976 and the BEOG decline in 1978 seem to account for the missing 300,000 students in the U.S. Census Bureau projection cited at the beginning of the paper.

The Underemployed College Graduate

Some researchers argue that college enrollments are acutely sensitive to wages and unemployment rates among college graduates. According to them the job market is currently glutted with over-qualified or unemployed college graduates who must seek jobs below their expectations. Furthermore, the gap between the earnings of high school and college graduates has been narrowing to the point that wholesale disaffection with college is sometimes claimed to be imminent. These researchers generally predict enrollment declines in the 1980's that will exceed those anticipated after the peaking of the post World War II "baby boom."

The theory is built largely on the effects of the 1974 recession and fails to explain the sharp increase in college enrollments among male and female full- and part-time students in 1975 when tuitions leveled off and student aid increased. Furthermore, this theory assumes continuation in the 1980s of the weak economy of the seventies. That is, the lack of success in national efforts to solve the energy crisis and create a new economic base for national prosperity.

Another phenomenon that cannot be explained by this theory is the increased college participation rates among female students who, in most fields, continue to experience lower wages and higher unemployment rates than males. This exceptional trend is clearly evident in state colleges and university enrollments.

The extent to which wages and unemployment rates affect college enrollments can be debated. There seem to be important similarities between unemployment rates and state college enrollments, but the data shows that unemployment in the 1970's has been far more volatile than overall enrollments. The slight closing of the wage gap may be explained partially by the general effects of recession combined with recent increases in the minimum

wage. The latter have kept pace with inflation, while overall after tax incomes have not.

Demographic Decline

Perhaps the most prevalent theory duing this decade has been that enrollments have declined because there are fewer high school graduates. However, high school graduating classes did not reach their peak nationally until 1979. Furthermore, since 1965, college attendance has increased much faster than the size of high school graduating classes, therefore it does not necessarily follow that college attendance should decline as fast as the post-1980 decline in high school graduates. It is true that in states where graduating high school students have declined in number, there have been declines in state college and university enrollments in many cases. However, the declines were not evenly distributed geographically and there may be other explanations, such as the disproportionate number of rurally located institutions and stable or declining state populations. The demographic decline theory also fails to explain the sharp fluctuations in enrollments during the 1970's.

Preference for Part-Time Attendance

Some researchers have observed the sharp increases in part-time attendance and have concluded that this can be explained only in terms of student preference. The fact that the gap between full- and part-time attendance widened sharply at a time when sibling overlap was in full force and the cost of full-time attendance was increasing faster than inflation seems neither noticed nor explained. Part-time attendance also has been augmented by the increasing number of older adults enrolling in state colleges and universities.

The Selfish Parent

Advocates of the selfish parent theory argue that parents are no longer as willing to support the education of their children. Frequently cited evidence is that before-tax family income has increased as fast as inflation during the seventies, while college attendance costs have only paralleled inflation. This theory ignores the fact that after-tax incomes have not kept pace with inflation, particularly with the even faster rise in the cost of basic necessities. Complicating this has been the uneven increase in college costs and the sibling overlap phenomenon, which has in many cases forced families to support more than one child in college simultaneously.

The Undereducated American

The most recent theory is that college enrollments have lagged because high school students are academically less prepared than previously. There is

substantial evidence suggesting that the latter is true, due, among other things, to adoption of multiple tracking in the secondary schools. However, as with unemployment and demography, the ability or the theory to plausibly explain short-term fluctuations in state college and university enrollments is not as direct as the attendance cost explanation. This should not suggest that the long-term issues raised by the advocates of other theories should go unheeded in planning for the future. State colleges and universities are fundamentally sensitive to important societal changes and some of the popular theories reflect real issues in the changing higher education environment.

For example, whatever the cause, the part-time student has become, and is likely to remain, a major constituent of state colleges and universities throughout the decade of the eighties. Unless full-time college participation rates for recent high school graduates increase substantially in the 1980's, the student who, because of family and job responsibilities, must often attend college part-time will become increasingly important. Such students are likely to demand changes in curricula and teaching methods as well as new mechanisms for financing college. A fruitful future direction for curricula and financing, AASCU has recommended an agreement with researchers such as Joseph Froomkin is to combine work and study through the expansion of cooperative education and other means. This could be particularly important if the current period of economic turmoil ends and unemployment rates experience sustained decline.

The undereducated American theory also seems to illustrate another legitimate issue. Alexander Astin has suggested that "the best things that colleges could do for their own future is help boost achievement in the schools." It seems highly plausible that greater efforts on the part of the state colleges and universities to improve elementary and secondary education could result in higher full-time attendance rates, particularly among minority students whose underrepresentation on campus is being viewed with growing alarm.

Conclusion

In the final analysis, enrollments in state colleges and universities seem acutely sensitive to the ability of students to pay the costs of college attendance. If tuitions increase faster than inflation, or if financial aid for important student constituencies decline, enrollments seem likely to decline. Furthermore, with the recent expansion of student aid it has become more difficult to know or to explain when financing is adequate. In short institutional planning has become more complicated and successful negotiation through the 1980's has become more dependent on the accurate assessment of economic and political changes that affect the higher education environment.

An example of one such change for the fall of 1979 is the implementation of the Middle Income Student Assistance (MISAA) amendment to the BEOG program. This will substantially increase grant aid to students in the $12,000 – $25,000 family income range and possibly boost 1979 enrollments. For the

long run, however, it is important to monitor MISAA's impact on students whose incomes fall below this level and to assess carefully proposals for raising tuition and reducing student aid.

APPENDIX

Tables Accompanying
Figures in the Text

Table for Figure 1.

AASCU INSTITUTIONS

	HEADCOUNT			FTE		
	No.	%	%	No.	%	%
1978	2,271,279	-2.18	64.21*	NA	NA	NA
1977	2,322,100	.83	66.39	1,789,935	.21	59.79
1976	2,303,091	-1.52	65.56	1,786,198	-1.37	59.58
1975	2,338,643	6.80	67.08	1,811,012	6.37	60.95
1974	2,189,647	3.78	60.28	1,702,638	2.21	54.58
1973	2,109,938	2.31	56.50	1,665,751	.73	52.37
1972	2,062,324	1.16	54.19	1,653,601	-.10	51.64
1971	2,038,594	4.54	53.03	1,655,327	4.57	51.74
1970	1,950,039	8.25	48.49	1,583,009	7.71	47.17
1969	1,801,363	8.67	40.24	1,469,694	7.89	39.46
1968	1,657,609	11.86	31.57	1,362,169	11.09	31.57
1967	1,481,864	10.82	19.71	1,226,176	11.13	20.48
1966	1,337,142	8.89	8.89	1,103,405	9.35	9.35
1965	1,227,957	0.00	0.00	1,009,030	0.00	0.00

SOURCE: HEW, National Center for Education Statistics (NCES) data.

*Preliminary NCES data for 1978-79. December, 1978.

Table for Figure 1
High School Graduates

Table 10.—High school graduates, with projections, by sex of student and control of institutions: United States, 1954-55 to 1986-87.

[In thousands]

Year	Total high school graduates [1]	Sex		Control	
		Boys	Girls	Public	Private (estimated)
(1)	(2)	(3)	(4)	(5)	(6)
1954-55	1,351	648	703	1,208	143
1955-56	1,421	682	739	1,263	158
1956-57	1,446	696	750	1,282	164
1957-58	1,513	729	784	1,344	169
1958-59	1,639	790	849	1,447	192
1959-60	1,864	898	966	1,633	[2] 231
1960-61	1,971	958	1,013	1,732	239
1961-62	1,925	941	984	1,685	[2] 240
1962-63	1,950	959	991	1,717	[2] 233
1963-64	2,290	1,123	1,167	2,015	[2] 275
1964-65	2,665	1,314	1,351	2,366	[2] 298
1965-66	2,632	1,308	1,325	2,334	[2] 298
1966-67	2,679	1,332	1,348	2,381	298
1967-68	2,702	1,341	1,360	2,402	300
1968-69	2,829	1,402	1,427	2,529	300
1969-70	2,896	1,433	1,463	2,596	300
1970-71	2,944	1,457	1,487	2,644	[3] 300
1971-72	3,008	1,490	1,518	2,706	[3] 302
1972-73	3,043	1,503	1,540	2,737	[3] 306
1973-74	3,081	1,515	1,566	2,771	[3] 310
1974-75	3,140	1,545	1,595	2,830	[3] 310
1975-76	3,153	1,572	1,581	2,842	[3] 310
			Projected [4]		
1976-77	3,149	1,571	1,578	2,839	310
1977-78	3,160	1,578	1,582	2,850	310
1978-79	3,144	1,570	1,574	2,834	310
1979-80	3,097	1,547	1,550	2,787	310
1980-81	3,043	1,522	1,521	2,733	310
1981-82	2,944	1,463	1,481	2,634	310
1982-83	2,835	1,415	1,420	2,525	310
1983-84	2,740	1,368	1,372	2,430	310
1984-85	2,692	1,344	1,348	2,382	310
1985-86	2,694	1,345	1,349	2,384	310
1986-87	2,740	1,369	1,371	2,430	310

[1] Includes regular public and nonpublic schools, residential schools for exceptional children, subcollegiate departments of institutions of higher education, Federal schools for Indians, and federally operated schools on Federal installations. Excludes equivalency certificates. More than 99 percent of public school graduates and 97 percent of nonpublic school graduates are graduates of regular day schools.

[2] Reported data from Office of Education surveys.

[3] Estimated based on revised nonpublic secondary enrollment (table 4). These revised estimates of nonpublic high school graduates differ from figures shown in 1976 and earlier editions.

[4] The projections of public high school graduates are based on the assumption that for boys and girls separately, the number of high school graduates expressed as a percentage of the population averaging 18 years of age will remain constant at the 1975-1976 level through 1986.

The projection of nonpublic high school graduates is based on the following assumptions: (1) The number of nonpublic high school graduates will remain approximately the same throughout the projection period. (2) The percentage of boys among nonpublic high school graduates (48.1 percent in 1964-65) will remain constant to 1986-87.

For further methodological details, see appendix A. table A-2.

SOURCES: U.S. Department of Health, Education, and Welfare, National Center for Education Statistics, publications: (1) Statistics of Public Elementary and Secondary Day Schools, annually, fall 1964 through 1976, (2) Statistics of State School Systems, biennially, 1953-54 through 1959-60, (3) Statistics of Nonpublic Elementary and Secondary Schools, 1965-66 and 1970-71, (4) Statistics of Public and Nonpublic Elementary and Secondary Day Schools, 1968-69, and (5) Nonpublic School Enrollments in Grades 9-12, Fall 1964, and Graduates, 1963-64.

Tables for Figure 2
AASCU INSTITUTIONS

Full Time Students Female
Summary

Number of Institutions. . . 333

Year	Enrollment	Change	Percent
1965	405549	0	0.00
1966	446677	41123	10.14
1967	506306	59629	13.35
1968	557388	51082	10.09
1969	597076	39688	7.12
1970	645304	48228	8.08
1971	672960	27656	4.29
1972	673851	891	.13
1973	678761	4910	.73
1974	694864	16103	2.37
1975	735686	40822	5.87
1976	751918	16232	2.21
1977	766549	14631	1.95

Part Time Students Female
Summary

Number of Institutions. . .333

Year	Enrollment	Change	Percent
1965	150453	0	0.00
1966	168802	18349	12.20
1967	184736	15934	9.44
1968	212634	27898	15.10
1969	243088	30454	14.32
1970	270502	27414	11.28
1971	282730	12228	4.52
1972	305112	22382	7.92
1973	333924	28812	9.44
1974	373498	39574	11.85
1975	403981	30483	8.16
1976	410324	6343	1.57
1977	430005	19681	4.80

Full Time Students Male
Summary

Number of Institutions. . .333

Year	Enrollment	Change	Percent
1965	494018	0	0.00
1966	539860	45842	9.28
1967	592026	52166	9.66
1968	657061	65035	10.99
1969	706784	49723	7.57
1970	754190	47406	6.71
1971	790734	36544	4.85
1972	775389	-15345	-1.94
1973	764896	-10493	-1.35
1974	764269	- 627	- .08
1975	811511	47242	6.18
1976	775833	-35678	-4.40
1977	757304	-18529	-2.39

Part Time Students Male
Summary

Number of Institutions. . .333

Year	Enrollment	Change	Percent
1965	177936	0	0.00
1966	181803	3867	2.17
1967	198796	16993	9.35
1968	230526	31730	15.96
1969	254415	23889	10.36
1970	280043	25628	10.07
1971	292170	12127	4.33
1972	307972	15802	5.41
1973	332357	24385	7.92
1974	357016	24659	7.42
1975	387465	30449	8.53
1976	365016	-22449	-5.79
1977	368242	3226	.88

11

Table for Figure 3

AASCU INSTITUTIONS

Full-Time Undergraduate

	No.	%	%
1976	1,443,465	- 1.17	31.31
1975	1,460,584	5.90	32.48
1974	1,379,147	.64	26.58
1973	1,370,442	- 1.07	25.94
1972	1,385,287	- 1.15	27.01
1971	1,401,473	4.28	28.16
1970	1,343,985	6.53	23.88
1969	1,261,549	7.03	17.35
1968	1,178,711	10.32	10.32
1967	1,068,491	0.00	0.00

Part-Time Undergraduate

	No.	%	%
1976	451,370	4.91	73.15
1975	430,228	10.47	68.24
1974	389,466	9.41	57.77
1973	355,975	7.38	48.36
1972	331,513	3.11	40.98
1971	321,506	7.21	37.87
1970	299,878	13.75	30.66
1969	263,627	.09	16.91
1968	263,391	16.82	16.82
1967	225,463	0.00	0.00

Full-Time Graduate

	No.	%	%
1976	84,286	- 2.69	113.54
1975	86,613	8.29	116.23
1974	79,986	9.25	107.94
1973	73,215	14.48	98.69
1972	63,953	2.78	84.21
1971	62,221	12.09	81.43
1970	55.509	31.19	69.34
1969	42,311	18.39	38.15
1968	35,738	19.76	19.76
1967	29,841	0.00	0.00

Part-Time Graduate

	No.	%	%
1976	323,970	-10.31	78.94
1975	361,219	5.91	89.25

	No.	%	%
1974	341,048	9.91	83.34
1973	310,306	10.21	73.43
1972	281,571	11.12	63.22
1971	253,394	1.09	52.10
1970	250,669	7.18	51.01
1969	233,876	30.10	43.83
1968	179,769	13.73	13.73
1969	158,069	0.00	0.00

13

Table for Figure 4
Unemployment Rates

UNEMPLOYMENT LEVELS AND RATES
Individuals 18-24 Years of Age Compared with Total Population, by Race
1968-1976

(Level in Thousands)

	18-24					
	Total		White		Nonwhite	
Year	Level	Rate	Level	Rate	Level	Rate
1968	968	7.4	740	6.5	228	13.5
1969	977	7.1	741	6.1	235	13.4
1970	1,433	9.8	1,110	8.5	323	17.5
1971	1,784	11.5	1,404	10.3	379	19.9
1972	1,790	10.8	1,385	9.5	405	20.1
1973	1,582	9.0	1,189	7.8	393	18.1
1974	1,899	10.5	1,454	9.1	446	20.1
1975	2,791	15.0	2,211	13.5	580	25.1
1976	2,588	13.5	2,019	12.0	568	24.5
1977	2,352	11.9	1,303	10.4	634	26.2
1978	2,203	10.8	1,588	8.9	615	15.5
			Total			
1968	2,817	3.5	2,225	3.2	590	6.7
1969	2,832	3.5	2,260	3.1	571	6.4
1970	4,088	4.9	3,337	4.5	752	8.2
1971	4,993	5.9	4,074	5.4	919	9.9
1972	4,840	5.6	3,885	5.0	956	10.0
1973	4,304	4.9	3,412	4.3	894	8.9
1974	5,076	5.6	4,057	5.0	018	9.9
1975	7,030	8.5	6,371	7.8	1,459	13.9
1976	7,288	7.7	5,855	7.0	1,433	13.1
1977	6,855	7.0	5,373	6.2	1,482	13.1
1978	6,047	6.0	4,620	5.2	1,427	11.9

Persons 16 years of age or older who were unemployed.

Source: U.S. Department of Labor, Bureau of Labor Statistics; Washington, D.C. unpublished data provided by Morris Newman, 523-1371, Tom Bradshaw and Roberta McCay.

Table for Figure 4
Headcount Enrollments and Unemployment Rates

	Cumulative % Increase HE Enrollment AASCU Institutions	Cumulative % Increase 18-24 Year Age Unemployment
1968	0.00	0.00
1969	8.89	.93
1970	19.71	47.60
1971	24.25	72.09
1972	25.41	72.43
1973	27.72	60.81
1974	31.50	80.84
1975	38.30	127.81
1976	36.78	120.54
1977	37.61	111.42
1978	35.43	105.09

Tables for Figure 5

AASCU MEMBERS IN SMSAS WITH OVER 500K POPULATION
HEAD STUDENTS PUBLIC
SUMMARY

Number of Institutions. . .94

Year	Enrollment	Change	Percent
1965	451280	0	0.00
1966	486369	35089	7.78
1967	545438	59069	12.14
1968	630326	84888	15.56
1969	693544	63218	10.03
1970	745557	52013	7.50
1971	797241	51684	6.93
1972	827431	30190	3.79
1973	866254	38823	4.69
1974	914924	48670	5.62
1975	988305	73381	8.02
1976	963437	-24868	-2.52
1977	975013	11576	1.20

AASCU MEMBERS IN SMSAS WITH 70K–500K POPULATION
HEAD STUDENTS PUBLIC
SUMMARY

Number of Institutions. . .89

Year	Enrollment	Change	Percent
1965	312052	0	0.00
1966	345408	33356	10.69
1967	386457	41049	11.88
1968	432778	46321	11.99
1969	463962	31184	7.21
1970	520252	56290	12.13
1971	535699	15447	2.97
1972	537979	2280	.43
1973	549762	11783	2.19
1974	569411	19649	3.57
1975	606572	37161	6.53
1976	594870	-11702	-1.93
1977	609431	14561	2.45

AASCU MEMBERS NOT IN SMSAS – RURAL
HEAD STUDENTS PUBLIC
SUMMARY

Number of Institutions. . .150

Year	Enrollment	Change	Percent
1965	464625	0	0.00
1966	505365	40740	8.77
1967	549969	44604	8.83
1968	594505	44535	8.10
1969	643857	49352	8.30
1970	684230	40373	6.27

Year	Enrollment	Change	Percent
1971	705654	21424	3.13
1972	696914	- 8740	-1.24
1973	693922	- 2992	- .43
1974	705312	11390	1.64
1975	743766	38454	5.45
1976	744784	1013	.14
1977	737656	- 7128	- .96

17

Table for Figure 6

Tuition Room and Board and the Consumer Price Index – Public and Non-Public Institutions – 1968-1976

	Public		Non-Public		Sept. CPI	
	$/	Cumulative Percent Increase	$	Cumulative Percent Increase	Index	Cumulative Percent Increase
1968	1117	0.0	2321	0.0	105.1	0.0
1969	1203	7.7	2530	9.0	111.2	5.8
1970	1287	14.7	2738	17.2	117.5	11.5
1971	1357	20.1	2917	23.7	122.2	15.5
1972	1458	27.5	3038	27.8	126.2	18.8
1973	1517	31.5	3164	31.9	135.5	26.2
1974	1617	38.1	3386	38.9	151.7	38.2
1975	1725	44.8	3691	47.9	163.6	46.0
1976	1874	53.4	4058	57.8	172.6	51.5

Source: U.S. Department of Health, Education and Welfare, National Center for Education Statistics, Projections of Education Statistics to 1986-87, pp. 112-113

18

Table for Figure 8

Federal and State Student Aid, Except Veterans Benefits and Social Security
(In Thousands)
1972–1978

	State Aid	Federal Aid	Total	Cumulative % Increase
1972	$ 316	$ 1079	$1395	0.0
1973	364	1291	1655	18.6
1974	441	1256	1697	21.2
1975	510	1757	2267	54.8
1976	651	2508	3159	94.1
1977	737	2879	3616	108.6
1978	829	3167	3996	119.1

Sources: Federal Aid – American Council on Education, Economics and Finance Unit
State Aid – National Association of State Scholarship and Grant Programs 1978-79.

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